



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,537	07/02/2001	Shimman Patel	000270	7551

23696 7590 12/02/2004

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

KIM, KEVIN

ART UNIT	PAPER NUMBER
----------	--------------

2634

DATE MAILED: 12/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,537

Applicant(s)

PATEL ET AL.

Examiner

Kevin Y Kim

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 17, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 2-16, 18-27 and 30-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/12/2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/04/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al (US 6,418,162) in view of Signell et al (US 6,032,166).

Referring to Fig.1, Yau et al describes a traditional frequency spectrum, measurement.

The spectrum of an input signal is measured by linearly or stepping through a desired frequency range, bandpass filtering the signal and measuring the signal power. See col.1, lines 5-36.

Though not explained in detail, it can be seen that a frequency is selected and a narrow bandpass filter passes the selected frequency while rejecting other frequencies, thus allowing the measurement of the signal power at the selected frequency. It can be inferred that a bank of narrow bandpass filters or a bandpass filter with a variable passband is required to pass each of the selected frequencies. Thus process is repeated until selected frequencies in a desired frequency range are exhausted. It goes without saying that frequencies whose power are measured over a predetermined level will be judged as the spectrum/bandwidth of the signal. Thus, this description of the traditional frequency spectrum measurement of a signal discloses the claimed steps of "obtaining a power measureof the received signal," and the step of "estimating a bandwidth of the received signal based on the power measure." The claim additionally calls for the steps of "receiving information defining a generating value of a filter"

Art Unit: 2634

and “generating a plurality of coefficients of the filter from the generating filter.” Referring to Fig. 1, Signell et al discloses a digital bandpass filter with a variable passband (16), where the programming of the passband is obtained by varying the filter coefficients. See col. 1, lines 24-28. In other words, upon receiving a control signal “defining a generating value of a filter,” i.e., a specific frequency, the digital bandpass filter generates coefficients for the filter such that the specific frequency would be passed therethrough. The digital bandpass filter with a variable passband is described to allow utilization of the easy programmability of discrete-time filters. See col. 1, lines 26-41. Thus, it would have been obvious to one skilled in the art at the time the invention was made to use the digital bandpass filter with a variable passband, taught by Signell et al, as a bandpass filter of a spectrum measurement device described by Yau et al such that the digital bandpass filter generates coefficients in response to a selected frequency, the power of the bandpassed signal is measured to estimate the bandwidth of a signal.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 28 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Yau et al.

Consider claim 28. Referring to Fig. 1, Yau et al describes a traditional frequency spectrum, measurement. The spectrum of an input signal is measured by stepping through a

Art Unit: 2634

desired frequency range, reading on the limitation that “non uniformly sampling a frequency spectrum of a received signal at a plurality of selected frequencies.” Next, the signal is bandpass filtered to measure the signal power at each sampled frequencies, meeting the limitation that “determining a plurality of power measures of the received signal, each power measure being relative to one of the plurality of selective frequencies.” This process is repeated until selected frequencies in a desired frequency range are exhausted. It goes without saying that frequencies whose power are measured over a predetermined level will be judged as the spectrum/bandwidth of the signal, meeting the limitation “obtaining an estimate of the bandwidth of the received signal, said estimate based at least in part on the power measures of the received signal.”

Regarding claim 29, Fig. 1 of Yau et al shows a requirement of a plurality of bandpass filters, each filter having a center frequency about one of the plurality of selected frequencies, i.e, 10,20,.....,120 kHz.

Allowable Subject Matter

Claims 2-16,18-27, 30-32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

Art Unit: 2634

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kvk

KEVIN KIM
PATENT EXAMINER

